

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of the Commission's Rules)	
Regarding Maritime Automatic)	WT Docket No. 04-344
Identification Systems)	
)	
Petition for Rule Making Filed by)	RM-10821
National Telecommunications and)	
Information Administration)	
)	
Emergency Petition for Declaratory)	
Ruling Filed by MariTEL, Inc.)	
)	
Amendment of the Commission's Rules)	PR Docket No. 92-257
Concerning Maritime Communications)	

COMMENTS OF MARITEL, INC.

MariTEL, Inc., by its attorneys and pursuant to the provisions of Section 1.415 of the rules and regulations of the Federal Communications Commission ("FCC" or "Commission") and the invitation extended by the FCC in the Further Notice of Proposed Rule Making in the above-referenced proceeding (*"Further Notice"*), hereby submits its comments in response to the FCC's continuing proceeding designed to regulate automatic identification systems ("AIS").^{1/}

Background

MariTEL is the largest provider of VHF Public Coast ("VPC") services in the United States and, through various predecessors in interest, has provided ship-to-shore services for over forty years. In 1999 and again in 2001, MariTEL actively participated in the FCC's auctions of

^{1/} *Amendment of the Commission's Rules Regarding Maritime Automatic Identification Systems*, Report and Order, Further Notice of Proposed Rule Making and Fourth Memorandum Opinion and Order, 21 FCC Rcd 8892 (2006). These comments address only the *Further Notice*. MariTEL has simultaneously submitted a Petition for Reconsideration or Clarification regarding the Report and Order in this proceeding.

VPC station licenses.^{2/} As a result, MariTEL became the exclusive entity (except for site-specific incumbent licensees) authorized to operate on maritime VPC spectrum. In addition, MariTEL is the licensee of seven inland VPC authorizations.^{3/} MariTEL recently notified the FCC that it satisfied its initial substantial service obligation for all but two of its maritime VPC authorizations.^{4/}

In the Report and Order issued with the *Further Notice*, the FCC reallocated channel 87B (161.975 MHz), licensed to MariTEL, for AIS operations. That reallocation affected only maritime VPC authorizations. In the *Further Notice*, the FCC asks whether channel 87B should be set aside on a nationwide basis for AIS. In addition, the *Further Notice* asks about the

^{2/} “FCC Announces the Conditional Grant of 26 VHF Public Coast Station Licenses,” *Public Notice*, DA 99-195, 1999 FCC LEXIS 2251 (reel. May 21, 1999) (announcing that MariTEL was the winning bidder of nine VHF public coast licenses); “VHF Public Coast and Location and Monitoring Service Spectrum Auction Closes: Winning Bidders Announced,” *Public Notice*, DA 01-1443 (reel. June 15, 2001) (announcing that MariTEL was the winning bidder of seven inland VPC licenses).

^{3/} MariTEL, Inc. holds authorizations for inland VPC authorizations bearing the call signs WPTI475, WPTI476, WPTI477, WPTI478, WPTI479, WPTI480, and WPTI481.

^{4/} See Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ530 - VPC001, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ533 - VPC002, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ534 - VPC003, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ535 - VPC004, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ531 - VPC005, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ536 - VPC006, filed June 2, 2006; Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ532 - VPC007, filed June 2, 2006; Amended Notice of Compliance With Substantial Service Requirement for VHF Public Coast Station License WPOJ532 - VPC007, filed July 24, 2006. The FCC has not yet addressed MariTEL’s request for extension of time related to its Alaska and Hawaii maritime VPC licenses and its inland VPC authorizations. See MariTEL, Inc. Request For Rule Waiver and Extension of Construction Deadline, filed May 24, 2005; MariTEL, Inc. Supplement to Request for Rule Waiver and Extension of Construction Deadline, filed July 26, 2006.

processes for authorizing base stations that will transmit on channel 87B. Finally, the *Further Notice* asks about the authorization of so-called “Class B” AIS devices.

MariTEL has actively participated in this proceeding, and all of its licenses include Channel 87B. Accordingly, MariTEL will be directly affected by the FCC’s decision in this proceeding. MariTEL is therefore pleased to have the opportunity to submit the following comments.

Comments

Satellite AIS -- Inland Areas

There is no justification for the proposed reallocation of channel 87B on a nationwide basis.^{5/} As the Commission recognizes, “the existing record provides almost no information regarding the technical feasibility, effectiveness or potential benefits of satellite AIS, and no studies or analysis of potential interference to and from satellite AIS. We are not convinced, based on the current record, that we should depart from the Commission’s earlier determinations limiting the scope of the AIS set-aside.”^{6/} MariTEL concurs. The Coast Guard is already constructing a network of terrestrial stations intended to receive AIS transmissions. As the *Further Notice* contemplates, that network may be supplemented by private base stations that may be able to receive AIS data and transmit it to the Coast Guard. If channel 87B were reallocated on a nationwide basis, it would permit the Coast Guard to monitor transmissions on the frequency from satellites and not merely from terrestrial stations. However, there is no evidence that space-based monitoring will provide the Coast Guard with any more information than it would otherwise receive from terrestrial monitoring. And, more importantly, there is no evidence that the Coast Guard or the National Telecommunications and Information

^{5/} See *Further Notice* at ¶ 52 (seeking comment on satellite AIS).

^{6/} *Id.*

Administration (“NTIA”) is actually in the process of developing any particular satellite-based AIS system. NTIA’s statement that “the feasibility of using high altitude and space-based platforms to extend the range of AIS is being studied” does not provide a sufficient basis for further stripping *bona fide* licensees of the valuable spectrum that they purchased at auction.^{7/}

Even if there is a benefit to monitoring channel 87B transmissions from space, there is no need to prevent its use for non-AIS purposes. Because the FCC has not proposed to permit space-to-earth satellite transmissions on channel 87B, the purpose of allocating the frequency for AIS on a nationwide basis could only be to prevent non-AIS devices from “polluting” AIS transmissions on the channel. But such satellite stations would be monitoring only AIS transmissions on channel 87B, not transmissions on channel 87B generated from other uses.

If VPC licensees were permitted to retain channel 87B in areas distant from the shoreline and navigable waterways, the frequencies would be used for land mobile communications. The Commission can certainly require that the characteristics of land mobile radios using channel 87B and maritime radios using channel 87B be sufficiently different so that satellite monitoring would only detect channel 87B transmissions from vessels with AIS radios and not channel 87B transmissions from land mobile radios.

MariTEL strongly supports the Coast Guard’s mission of monitoring maritime traffic and maintaining domain awareness. Unfortunately, as MariTEL noted earlier in this proceeding, the use of channel 87B to achieve those goals is sub-optimal. Regardless of the wisdom of allocating channel 87B for maritime AIS transmission, and as the Commission has tentatively concluded, there is no basis for expanding the allocation of channel 87B for AIS purposes to inland areas. Indeed, in addition to retaining the use of channel 87B for inland VPC licensees,

^{7/} The Coast Guard’s provision of funding to ORBCOMM for satellite AIS research is not indicative of a near-term plan. *See Further Notice* at ¶ 51.

the Commission should authorize the non-AIS use of channel 87B in the inland portion of maritime VPCs as well.

There are many areas within maritime VPC areas that can fairly be designated as inland. The FCC should limit the reallocation of channel 87B to areas where it will actually be used for marine domain awareness -- maritime areas. The Commission has already recognized that maritime spectrum can be used in areas distant from shore and navigable waterways without affecting maritime communications.^{8/} The FCC should take the same steps here to permit the use of channel 87B for non-AIS operations in areas where it is not required for marine domain awareness, which includes the inland portions of maritime VPCs as well as inland VPCs.

The Commission asks whether, if it should redesignate channel 87B on a nationwide basis for AIS, it should make available to inland VPC licensees spectrum otherwise allocated in each VPC area for public safety operations. The FCC notes that public safety entities have made virtually no use of this spectrum. MariTEL believes that equity demands nothing less. While the Commission has asserted in the Report and Order that it has the authority to strip licensees of their spectrum, where it has the ability to make licensees whole in the process, it should certainly do so as a matter of public policy.

AIS Base Station Issues

The FCC asks how it should address the authorization, coordination and operation of AIS base stations. The FCC notes that the International Electrotechnical Commission ("IEC") is in the process of developing standards for AIS base stations. As MariTEL demonstrated in the

^{8/} See, e.g., *County of Placer, California Request for Waiver of Part 80 Rules to Permit Use of Maritime Frequencies for Private Land Mobile Radio Communications*, 20 FCC Rcd 3657 (2005) (authorizing partition and disaggregation of maritime VPC spectrum for inland public safety communications); *Commonwealth of Virginia Request for Waiver of Part 80 Rules to Permit Use of Maritime Frequencies for Private Land Mobile Radio Communications*, 19 FCC Rcd 15454 (2004) (same).

earlier phase of this proceeding, and as Congress^{9/} (and apparently the Coast Guard) now recognizes, AIS devices that conform to international standards (which have been incorporated into the FCC's rules) cause interference to, and receive interference from, VPC operations.^{10/} The Commission should not perpetuate these problems. Accordingly, it should not incorporate any IEC base station standards into the FCC's rules until, based on rigorous demonstration, it is satisfied that those base stations will not cause harmful interference to, and receive interference from, VPC stations.

The Commission asks about the procedures it should use for licensing AIS base stations. As an initial matter, MariTEL presumes that the FCC's inquiry relates only to base station *transmissions* and that the FCC does not propose to authorize -- consistent with its practices in other services -- base station receivers. There is no basis for restricting the reception of AIS transmissions. MariTEL expects that it may do so and make available that information to third parties. The information that MariTEL would make available would be that publicly accessible information to which MariTEL had access through arrangements with maritime users.

^{9/} See Coast Guard and Maritime Transportation Act of 2006, Pub. L. No. 109-241, 100 Stat. 516, 546 § 419 (July 11, 2006).

^{10/} See *Petition For Reconsideration or Clarification*, filed herewith, at 4-6; see also letter from Larry S. Solomon, Spectrum Management Counsel, Spectrum Management Division, United States Coast Guard to Russell H. Fox, dated July 31, 2006, a copy of which is attached hereto as **Exhibit A** ("July 31 Letter"); letter from Larry S. Solomon, Spectrum Management Counsel, Spectrum Management Division, United States Coast Guard to Russell H. Fox, dated August 10, 2006, a copy of which is attached hereto as **Exhibit B** ("August 10 Letter"). In the August 10 letter the Coast Guard admitted what MariTEL had demonstrated to the FCC, but what the FCC failed to acknowledge in the *Order*. It recognized that AIS operations cause degradation to, and will be degraded by, VPC stations. The FCC found to the contrary in the *Order*, determining only that interference might be caused by AIS operations to VPC stations, but that such interference could be cured by MariTEL's adoption of technology commercially available at reasonable cost.

The FCC has reallocated channel 87B on a shared basis for government/non-government AIS use. It appears clear that the Coast Guard and entities such as the Saint Lawrence Seaway Development Corporation will be the government entities that operate on channel 87B to support their marine domain awareness and related missions.^{11/} However, AIS information may have commercial components as well, and other entities should be permitted to obtain base station authorizations for channel 87B to conduct commercial operations upon successful coordination with NTIA. The Commission should, therefore, develop coordination procedures that will not unnecessarily restrict non-government users from employing channel 87B for commercial AIS purposes. Without reasonable coordination procedures, the Commission's reallocation for shared government/non-government operations will be meaningless; the channel will have been allocated only for government use. There need not be eligibility restrictions on the use of channel 87B for commercial AIS operations. However, because of the shared nature of the channel, the rules should contain strict construction obligations and provisions for automatic termination of authorizations that cease operations.

^{11/} To the extent that the Coast Guard (or another government entity) partners with non-government third parties to perform its marine domain awareness and other maritime obligations, MariTEL expects that the FCC would issue authorizations to those third parties to operate on channel 87B for the purpose of transmitting AIS data. MariTEL recommends that an application for such an authorization be accompanied by a letter from the Coast Guard noting its request that the application be granted. The application should be limited to precise site locations rather than broad geographic areas. Similarly, the authorizations should be limited in duration and be restricted to the entity to which it was issued (and not assignable). The NTIA should not be permitted to unreasonably restrict the third parties with whom it partners for this purpose. Before it is permitted to support applications by non-government entities to use channel 87B as a government partner, NTIA should be required to demonstrate to the FCC that its partnering program is designed to encourage the broadest possible participation on a non-discriminatory basis.

Class B AIS Shipborne Equipment

MariTEL has repeatedly demonstrated throughout this proceeding the deleterious effects on VPC operations of AIS transmissions using channel 87B on a wideband, simplex basis. Congress (and now apparently the Coast Guard) also recognizes this issue. The FCC apparently proposes to authorize Class B devices that conform to the international IEC standard. Recognizing the damage that AIS devices cause to VPC operations, Congress authorized the use of funds to help ameliorate this problem.^{12/} The Coast Guard, despite Martial's urging, chose not to expend the funds necessary to address the issue. Accordingly, authorization of Class B devices, without the efforts contemplated by Congress, would be directly contrary to Congressional intent. Prior to the authorization of Class B devices, the funds designated by Congress should be used to address the issues that Congress recognized.^{13/} In the alternative, the FCC should require evidence that manufacturers have independently (and without funding from the Coast Guard) addressed the issue of AIS-to-VPC interference.

^{12/} See *supra* note 9.

^{13/} MariTEL recognizes that the funds designated by Congress were available only for a limited time. If necessary, additional Congressional authority should be sought to ensure that the Coast Guard continues to have the authority to use the funds originally allocated.

Conclusion

MariTEL, Inc. hereby submits the foregoing Comments and asks that the FCC take actions consistent with the views expressed herein.

Respectfully submitted,

MariTEL, Inc.

By: /s/ Russell H. Fox
Russell H. Fox
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Its Attorneys

November 13, 2006

EXHIBIT A

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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2400

July 31, 2006

Russell H. Fox, Esquire
Mintz, Levin
701 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Dear Russell:

I contacted you at the end of June to request that representatives from the United States Coast Guard ("USCG"), and possibly a representative from the National Telecommunications and Information Administration ("NTIA"), meet with appropriate MariTEL personnel to discuss technical issues relating to potential interference to AIS from voice communications on MariTEL's Channels 27 and 28. As you know, Channels 27 and 28 are interleaved with, and adjacent to, the AIS Channels.

During a follow-up telephone conversation, I indicated that the parties should meet to attempt to work out an adjacent channel frequency coordination plan in accordance with good engineering practices and recognized frequency coordination procedures. I also stated that engineering studies were underway and we believed there was a fairly simple "fix," provided the parties worked together.

We agreed on a 9 August 2006 meeting at MariTEL's headquarters outside of Atlanta, Georgia. Upon further reflection, however, the USCG believes that it would be a much more efficient and effective use of everyone's time if, prior to the meeting, NTIA and the USCG present a proposed adjacent channel frequency coordination plan to MariTEL, and MariTEL has an opportunity to comment on the proposal.

Accordingly, the meeting should be postponed until such time as MariTEL has an opportunity to review and comment on the proposed frequency coordination plan. We are currently working on the plan and hope to have it to you within approximately 30 to 45 days.

We appreciate MariTEL's willingness to discuss this important issue and look forward to working with you to develop a frequency coordination plan, consistent with good engineering practices, that protects the important public safety and security interests in AIS while permitting MariTEL to conduct its business successfully.

Sincerely,

A handwritten signature in dark ink, appearing to read "Larry S. Solomon".

Larry S. Solomon
Spectrum Management Counsel
Spectrum Management Division
BY DIRECTION OF THE COMMANDANT

EXHIBIT B

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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2400

August 10, 2006

Russell H. Fox, Esquire
Mintz, Levin
701 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Dear Russell:

This is to follow up on my letter of July 31, 2006 concerning the USCG/NTIA development of a frequency coordination plan. You called and stated that MariTEL was continuing system construction and that it would be difficult to wait 30-45 days to see the frequency coordination proposal. Therefore, you proposed a brief conference call to discuss some of the aspects of the proposed frequency coordination plan.

At this point, we do not see any benefit to a conference call as we are developing a frequency coordination plan and, quite frankly, we are not sure what the final product will look like. In addition, we are not sure exactly where many of our AIS stations will be located (although it is obvious that locations will include busy port areas). Nevertheless, in order to convey our current thinking, set forth below are our preliminary thoughts about the coordination proposal.

Channels 27 and 28 are the primary channels, as we understand it, for the SeaSmart voice system. As you know, these channels are adjacent to, and interleaved with, the internationally and FCC allocated AIS channels. Our intent is to follow good engineering practices and common traditional frequency coordination procedures. For example, previous electromagnetic compatibility ("EMC") studies by NTIA¹ and JSC² have shown that AIS and VPC channels with frequency separations of less than two adjacent channels (± 50 KHz) require coordination and geographical separation between sites to insure that both systems can operate without degradation from the other system. Accordingly, among other things, an assessment of the amount of geographical separation between AIS stations and SeaSmart stations as a function of frequency separation and other technical parameters is needed.

The previous EMC studies were based on field and laboratory measurements of candidate base station and mobile VPC and AIS equipment. The measurement data demonstrated inter-

¹ NTIA Technical Report (NTIA_rpt_00_376) on "Electromagnetic Compatibility (EMC) Between Marine AIS and Public Correspondence Systems in the Maritime Mobile VHF Band". This report deals with the effects of the VPC (VHF Public Correspondence) service on the AIS (and vice-versa) as a function of frequency separation and distance separation. Conclusions from test results indicate that simultaneous operation of both systems in the same area is a potential problem when frequency separation between the systems is less than 50 KHz (twice the 25 kHz adjacent channel separation).

² JSC Report (JSC-PR-04-007) on "EMC Analysis of Universal Automatic Identification and Public Correspondence Systems in the Maritime VHF Band." This report primarily addresses the effects of the AIS on the VPC service, but the information is useful in assessing the adjacent channel signal levels between the two systems. These levels appear to be problematic to the AIS when the level from the VPC is a FM-CW carrier (voice transmission). At the time of the report, the proposed VPC system was a digital data system, but more recently, the VPC service is now a voice service.

system interference when the frequency channels were closely spaced and the geographical locations were in close proximity. This inter-system interference was defined in terms of the degradation of the received signal quality of one system from the transmitter of the other system. This effect can be attributed to the emissions spectrum of the transmitter on the other system encroaching on the receiving channel of interest (the other system's transmitter adjacent channel power ratio ("ACPR")) and/or to the ability of the receiver on the system of interest to reject the transmitter power of the other system on its own channel (the system of interest's receiver adjacent channel rejection ratio, ACRR).

As you know, the ACPR requirements for the VPC channels in the United States are found in Part 80 of the Commission's rules, and the ACRR requirements for AIS ship and base stations and are set by the international standards, IEC 61993-2 and IEC 62320-1. While these levels are the established standards set by the government and industry, the achievable performance levels at the system level may be higher, depending on the actual equipment used (*e.g.*, transmitters with higher ACPR and/or receivers with higher ACRR), optional additional equipment (*e.g.*, special filters and/or directional antennas) and site parameters (*e.g.*, elevation and orientation of antennas). The necessary minimum inter-system geographical separations will be a function of all these considerations.

In accordance with the foregoing, it is anticipated that the USCG Frequency Coordination Plan will request that the parties provide information to each other including, but not limited to the following:

- Antenna tower address, latitude and longitude
- Antenna height above ground and above sea level
- Antenna make and model
- Antenna gain and EIRP
- Antenna orientation
- Transmitter make, model, and output power
- Transmitter emissions spectrum³
- Any equipment/operations to limit interference

This information will be processed to determine if the proposed station will cause interference. If there is a probability of interference, then recommendations will be made on how to minimize/alleviate the interference to the maximum extent practicable. If costs will be involved to remedy the interference, some mechanism will have to be developed to determine who, in a fair and reasonable manner, will be responsible for the costs of remediation. Also, procedures will have to be developed to somehow protect the "first stations" that are constructed at a particular site when, at the time of the construction, there was no probability of interference and that probability increases when a "new" station is placed in close proximity to the existing station. Finally, parties would be free to add or modify locations and equipment in accordance

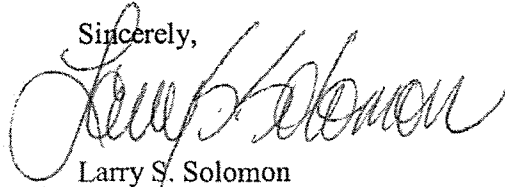
³ For example, the data on file for the MCT-100T transmitter, which we believe is currently in use for the SeaSmart service, shows a 75 kHz span centered on the carrier.

Russell H. Fox, Esquire
August 10, 2006
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with their needs so long as the frequency coordination procedures are followed for the new or modified site.

We certainly hope that the foregoing is helpful. We are attempting to develop our frequency coordination proposal as soon as possible.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry S. Solomon".

Larry S. Solomon
Spectrum Management Counsel
Spectrum Management Division
BY DIRECTION OF THE COMMANDANT